

KANSAS MEDICAL JOURNAL.

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MISCELLANEOUS.

The Little Red Spot in Its Final Analysis.

BY R. E. MCVEY, M.D., TOPEKA.

Read before the Topeka Academy of Medicine and Surgery.

The heart has always been the subject of the deepest interest and study from the earliest history of the human race.

It is regarded by the ancients as sacred. When a man died his heart was removed from the body and weighed on balances, the ancients supposing the heart to be the governing power of all human action. So when one of their great men or statesmen died and, as was usually the case, was a candidate for immortality, a figure of truth representing the average weight of the heart was put in one end of the balances, the heart in the other. If the heart weighed as much or more than the figure of truth the heart was restored to the body and the man was declared immortal.

The Bible says: "The meek shall eat and be satisfied; they that seek the Lord shall praise Him; your hearts shall live forever."

During the dark ages the heart was considered sacred, and dissections were forbidden by law. Therefore the people of those times were ignorant of its functions and diseases.

The great Harvey was the first to observe the vibratal motions of the little red spot in the egg. He found the little red spot was not stationary, but moved through every

motion of the egg, producing segmentation. Harvey claimed that the little red spot was the architect and builder of the organism. It was the germ of life and came into existence at fecundation. Out of itself it spins its muscular fibers and weaves its web. It contains within itself the entire material for the whole vascular structure.

This life germ weaves, interlaces, crosses and loops both striped and un-striped muscular tissue, in such a way as to construct the auricles and ventricles, with the necessary amount of resistance to the pressure which they are expected to withstand. Each cavity of the heart is exactly constructed and adapted to the work which it is to do. Again we find the arteries with an outside muscular coat, and an elastic middle coat, these two coats having opposite function—the tendency of the elastic coat is to keep the tube open, while the external muscular coat is to contract upon the elastic and force the blood through the arteries of the whole vascular structure. The heart and blood vessels are constructed in accordance with the law of hydrodynamics.

That the heart contains within itself the conditions necessary for the rythmical movements through the motor ganglia is indisputable. These ganglia are entirely independent of the will and under the excitation of the temperature and chemical composition of the blood, communicating to the muscular fibers of the heart their motor impulse.

If the heart of a frog be removed and placed in a saline solution it will continue to pulsate in as exact rythm and as regularly as before, a fragment of muscle containing a motor ganglia will pulsate when removed from the body without artificial stimulus.

If the ancients were familiar with the automatic action of the motor ganglia of

the heart, it is no wonder they should have regarded it as sacred and made it the governing principle of man.

The interior of the heart and blood vessels are lined with an endothelial membrane. Beneath this membrane is the sub-endothelial connective tissue and the blood vessels.

In pathological conditions the earliest changes consist in a moderate capacity of the endothelial membrane, the result of necrotic changes in the cells; subsequently the small blood vessels become engorged and there may be infiltration in the sub-endothelial tissue with exudation upon the endothelial membrane of the valves. It is but reasonable to suppose that congestion and exudations are of frequent occurrence, which are removed by the natural processes of repair as in other tissues. But recurrences of congestions and exudations alter the caliber of the vessels and the endothelial structure valves and permanent alterations take place. These alterations are of most consequence in the valves. The valves from frequent inflamed exudations are thickened and curled, or shortened, or so stiff as not to close the openings, and leakage is the result. Or there may be congestion and thickening and narrowing of the orifices and stenosis; but we may have both alterations.

In rheumatic endocarditis there seems to be a predilection to attack the mitral valve. Why, I do not know unless it is some peculiarity of the tissues making up its structure. Repeated attacks of rheumatism involving the endocardium shorten the cordæ tendinæ, and cripple the leaflets in such a way as to cause failure in their apposition to the orifices. The result is a leakage or regurgitation into the left auricle. The left auricle becomes expanded or dilated; the pulmonary vessels are also enlarged, and the left ventricle is hypertrophied, and a blowing sound is heard over the apex during systole.

While the heart is independent in action it is limited in its reparative processes. Through the aid of the lymphatic system

it may remove exudations and infiltrations, but it has not the power to repair a defective valve. But it can enlarge or cause new fibers in the ventricles to compensate for the defect in the valve. This it does independent of medicine or external aids. In mitral lesions compensation may continue for many years, and the patient not be aware of any disease or infirmity unless the trouble is discovered to him by some physicians. But at last there comes a time when there is failing compensation; there is alteration in the circulation of the lungs. The right ventricle in trying to overcome the resistance in the lungs becomes enlarged or hypertrophied, and the circulation goes on as before by a second compensation. But at last we have a failure of compensation in the right ventricle; and we have stasis in the venous, systemic and portal circulation, with œdema in the liver and lower extremities, the last analysis of a mitral lesion.

The next lesion of most importance is insufficiency of the aortic valve. The lesion of this valve is most likely to occur in middle age or in the latter years of life. Its cause may be of rheumatic origin but is not likely to be. It is most likely to be the result of muscular strain, alcoholism or syphilis.

Why syphilis should show a preference for the aortic valve and not the mitral I do not know, or why the aortic valve should be affected in alcoholism in preference to other portions of the endocardium is not at present settled.

Old age is a cause of this lesion within itself from atheromatous condition of the arteries, and general arteria sclerosis.

These causes tending to set up inflammation and thickening in the valves and orifice of the aorta there is a misfit and regurgitation as a result into the left ventricle. The blood coming in two ways from the aorta and the left auricle into the left ventricle, an eddy is formed and the second sound of the heart muffled. The sound is produced in diastole a little to the right of the sternum at the second intercostal space. The ventricle being overfilled at each

diastole, dilatation of its cavity results, and latter hypertrophy of the walls occurs, with the existing dilatations give rise to the enormous enlargement of the heart. In no other condition does hypertrophy reach the same degree. The muscular structure is firm and greatly thickened; interstitial myocarditis may be found in localized areas. Excessive dilation of the ventricle may lead to insufficiency of the mitral valve, and we have a double lesion instead of one. When there is insufficiency in the mitral valve we have dilatation of the left auricle, with disturbance in the circulation of the lungs. To overcome the dilatation of the pulmonary vessels and the blood stasis in the lungs, the right ventricle has to take on extra work to maintain the smaller circulation. It therefore becomes hypertrophied and later dilated, giving out under its extra work, venous stasis taking place in the portal and systemic circulations. But more frequently in the left ventricle, from its enlarged and dilated condition, there is failure of compensation; and visceral and systemic venous stasis.

In enlargement of the left ventricle its contractions are so strong as to cause dilatation of the aorta with general arterio-sclerosis with atheromatous patches in the larger blood vessels and degeneration and hardening of the peripheral vessels, which may rupture in the brain causing apoplexy or from an atheromatous patch an embolus may form and the clot be carried to the brain or kidneys and death may result, from softening and suppuration in the parts affected.

The prognoses in aortic insufficiency depends upon the degree of compensation in each case, and how long compensation can be maintained. It is in this kind of cases of aortic insufficiency that sudden deaths are most likely to occur from sudden dilatation of the ventricle and loss of compensation.

The diagnosis of heart trouble is not very difficult. In hypertrophy of the left ventricle from aortic lesion there is fullness over the region of the heart; the impulse of the ventricle is much stronger; there is throbbing of the vessels in the neck and some-

times the arteries can be seen throbbing in the temples. The apex beat is increased to the left and may be heard in the axilla. If the right ventricle is enlarged there is discomfort and throbbing to the right of the sternum. The duration of the insufficiency of the valves, where compensation has been established varies according to the location of the lesion. The duration of mitral lesions may be twenty years or more. The duration of aortic insufficiency according to my own experience is from two to six years.

Treatment.—In the treatment of rheumatic endocarditis the salicylates should be used as it is a part of the constitutional trouble and the salicylates are the best remedies. In aortic insufficiency, if the cause has been intemperance the stimulus should be prudently withdrawn. If there is a history of syphilis specific remedies are indicated. The patient should follow some occupation that does not require a great deal of mental or muscular effort. During compensation no treatment is indicated. When compensation begins to fail and there is marked dyspnoea and disturbance in the general circulation, digitalis stands at the head of heart tonics to support the failing muscular tone. As to the form of digitalis to be used, I prefer the tincture in ten-drop doses every four hours for an adult, to be interrupted or intermitted about once in two weeks, not that I am afraid of its accumulative effect, but because I think it maintains compensation better. The powder is more likely to produce nausea and upset the stomach. The infusion is more uncertain in its action. Where digitalis fails to produce action upon the kidneys citrate of caffeine may be given in five or six grain doses four to six hours apart. Strychnia is a valuable remedy in marked dyspnoea as it increases or stimulates the respiratory center, and increases the muscular tone in the ventricles; in emergency to be used hypodermically. Where the kidneys fail to carry off the dropsical accumulations, active purgation is indicated. For this purpose cream of tartar may be given in tablespoonful doses every four hours; it acts both as a diuretic and cathartic. Epsom salts is also an invaluable

remedy in carrying off the dropsical accumulations. The failing heart may be supported by brandy, whisky or wine.

Surgery.—If the disease extends to and there should be an effusion into the pericardium it should be aspirated. When there is an accumulation in the thorax aspiration may give immediate relief. When the right ventricle is overcome and engorged with blood it has been punctured to the great relief of the patient.

When the disease has run its course we may temporarily cause the heart to rally, but it will fall back again and again. The time comes when we have said our last word, and the little red spot of Harvey is in its final analysis.

Empyema.

By M. R. MITCHELL, M.D., TOPEKA, KAS.

Read before the Topeka Academy of Medicine and Surgery.

The term Empyema is usually applied to a collection of purulent fluid in the pleural cavity, and but one side is usually affected at the same time. It involves certain morbid anatomical changes. Among these there may appear, first, an acute inflammatory pleurisy, then it soon assumes the aspect of an acute suppurative pleuritis, presenting the history of a rapid development of pus cells in the connective tissue of the pleural walls, and upon their inner surfaces. These pus cells, or as Senn more scientifically observes, "pus microbes," commingle with a sero-fibrinous exudation from the pleural surfaces. These morbid changes may be traceable to different causes, for instance, a previously existing pyæmic condition of the patient. Again, an acute irritation or inflammation may be induced with a rapid cell-exudation, and purulent development, on account of the sudden admission of air by traumatic means, or by a bronchial sinus from abscess of the lung. Again, these conditions may result from the direct introduction of septic matter from abscess of an adjacent organ, as, for instance, that

of the liver, the lung, or, it may be, according to Frankel, from a chronic suppurative tuberculosis.

The exciting causes then are chiefly previously existing pyæmia, entrance of air into the pleural cavity, or the direct entrance of sepsis.

There are also certain predisposing causes, such as wasting diseases, chronic infection, chloranæmia and innutrition.

The diagnostic symptoms are pleural pain in the primary steps of development, attended or followed by chills, pallor, an anxious expression of countenance, respiratory sound of a distant indistinctness over the affected side, or it may be absent altogether, an altered weak voice, dullness of percussion, hectic, cough, dyspnœa, more or less displacement of the heart toward the opposite side of the chest, elevation of the thoracic wall and bulging of the intercostal spaces.

The above symptoms often quite positively give assurance of the existence of the empyema. But frequently the condition is very obscure, and then a resort to the hypodermic needle will pretty generally determine the existence or non-existence of a fluid and its character.

I have now endeavored to present, briefly, the morbid conditions, the causes, and the diagnostic symptoms of this serious malady.

Now, what have we presented for treatment? A veritable abscess, of such dimensions, and its location so vitally grave that a life is in the most imminent danger.

As to the treatment, only three things remain to be done, namely, to remove the purulent contents of the pleural cavity, to secure to the parts as far as possible an aseptic condition, and to sustain the patient.

In regard to the first requisite, absorption is out of the question. Evacuation may be attained by a spontaneous or artificial process. Spontaneous evacuation may take place through the thoracic wall, or into the lung and through a bronchial sinus, finding an exit by paroxysms of free expectoration, and again by sloughing through the diaphragm into the intestinal canal.

The means for artificial evacuation will be indicated by the peculiar conditions of

the case in hand.

In a limited development of the empyema, and the absence of general septic symptoms; aspiration repeatedly employed may be effectual in arresting the malady. But in case of a putrefactive condition of the purulent pleural contents, and especially if there appear general toxic indications, a free drainage is absolutely necessary.

The point at which the opening should be made may sometimes properly vary in order to secure the most ready and thorough evacuation, but generally it is best to make it about the sixth, seventh or eighth intercostal space, and it should be made with a bistoury in the center of and lengthwise with the intercostal space, in the axillary line, or at the anterior border of the latissimus-dorsi muscle, and large enough for the insertion of one or two one-fourth inch rubber drainage tubes. If the ribs seem so close as to embarrass the drainage tubes, a section of a rib to the extent of two or three inches may be removed, and then the incision made through the chest wall in the space vacated by the rib section. But if the empyemic fluid has been so profuse and long standing as to greatly compress the lung, rendering its expansion doubtful or impossible, so as to again fill up the thoracic cavity, a resection of a portion of each of several ribs may be made, as advised by Senn and some other surgeons, so as to secure a recession of the thoracic wall.

In regard to the irrigation of the cavity, a radical difference of opinion seems to exist among surgeons, one class claiming that it is useless and dangerous to the life of the patient, while another class avow that it is beneficial and safe when properly performed. With the opinion of the latter class I am inclined to coincide in respect to selected cases, namely, when after opening the cavity I find pouring out a putrefactive stinking pus. There is here a septic abscess cavity with extensive surfaces, producing and continuing to produce septic toxic germs, you will observe the symptoms of general sepsis and depression. Irrigation is deemed necessary in other abscesses. For instance, in case of a septic abscess of the

mammary gland, or of the ischio-rectal fossa, or of a purulent condition of the abdominal cavity, it seems to me as rational to remove from and arrest the ravages of the offending germs in the pleural cavity.

The material used for irrigation should be sterilized water at a temperature of 100° F., or a proper solution of iodine, boracic acid, carbolic acid, or salicylate of soda may be used with advantage. Strict care should be exercised not to introduce too much irrigating fluid at once on account of serious dyspnoea and pain induced.

The insertion of two tubes through the same incision, one to serve for the introduction of the fluid, and the other for the exit of the same, is the better method.

The irrigation should be repeated once daily while the putrid odor lasts.

Antiseptic dressing of gauze and cotton should be kept carefully applied to the wound.

All of the ordinary means of support to the patient should be rigidly attended to, such as tonics, nutritious and easily assimilated diet.

THE ground which Dr. Bell has succeeded in giving to the Kansas State University he once offered to the University Medical College, of Kansas City, Mo., but they declined with thanks.

FOR DYSPEPSIA:

R Peptenzyme ʒ ss
Ext. nuc. vom gr. v
Creosote gtt. xx

M.—Fx. capsule, No. xx.

S.—One capsule half an hour after meals.

DR. WILLARD P. SEXTON has purchased the large hotel building at Bonner Springs and opened a sanitarium especially for the care of nervous invalids and narcotic habits.

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Topeka, Kansas, Saturday, Feb. 23, 1895.

Thoracic Surgery.

The generally accepted opinion that in empyema a resection of one or more ribs is essential to complete recovery, does not seem to be founded upon clearly demonstrated facts. There are too many perfect recoveries reported where no resection was made, and many of these cases were of old standing. There have been too many cases where a spontaneous evacuation has occurred and recovery resulted. There are too many cases of totally disabled lung from the contracted chest wall where the operation has been done for us to believe that resection is imperative or always judicious.

Dr. Moses Gunn in 1884 related to the class at Rush Medical College the history of

his own case of empyema. It occurred while he was a young man, before he knew anything about empyema. There was a well defined empyema, and the pus found its way out. He did not have a resection made, but he used every possible effort to bring about an expansion of the lung. Tonics and outdoor exercise, and a systematic effort to develop the lung expansion resulted in a permanent and complete cure. With a small opening in the pleura, it is possible to overcome the pressure of external air, and we believe a complete expansion may be secured. The object of resection is, of course, to produce retraction of the chest walls upon the collapsed lung, but to expand the lung against the natural chest wall is certainly a more satisfactory proceeding, and we believe in a large number of cases it can be accomplished. Many cases have been treated without resection and complete recoveries resulted without any deformities.

The question of irrigation is at the present time unsettled. Drainage is obviously essential, but the objection to irrigation seems to have arisen from the intolerance of lung tissue for liquids of any kind.

Dr. Shurley, of Detroit, has recommended the use of chlorine gas, on the ground that it is equally as antiseptic, is less dangerous and more easily reaches all diseased tissue.

For drainage alone siphonage and gauze packing are both recommended. It seems to us that irrigation is the most rational treatment, and if carefully carried out it seems as free from danger as most any other plan of treatment. There are doubtless many cases where simple aspiration is sufficient for recovery; and here, of course, where there is only a small collection of pus, the introduction of a large quantity of fluid might be disastrous; but where the purulent accumulation is large and where the lung is greatly retracted, we can hardly understand the danger of substituting an antiseptic fluid for pus.

DISEASE germs and matter from diseased persons cannot be sent through the mails.

Secrecy in Diagnosis.

Acute endocarditis depends upon vital and chemical alterations in the properties of the blood, and the rational treatment is the one which tends to restore the blood to its natural condition. Chronic endocarditis causes sclerotic and cirrhotic changes in the valves. These changes may be very extensive and yet not interfere very materially with the cardiac function for many years. Where such is the case it is very unwise to inform the patient of an existing lesion. A knowledge that he has a cardiac affection will often direct a patient's attention to an organ which previously has caused him no uneasiness whatever. The frequent newspaper reports of sudden death from heart disease lead many an unfortunate to live in dread of a similar fate when in all likelihood he is in no danger. We have known patients who carried in their pockets digitalis or other heart stimulants as a possible prevention of that sudden end which they perpetually dread. The constitutional debility which frequently results from this continual worry is more disastrous to the patient than any circumstance which is likely to arise from his ignorance. Sudden surprises or shocks cannot be prevented by a knowledge of the disease, and over-exertion can be prevented by cautious advice without any unnecessary alarm. Men are often incapacitated for various vocations simply by knowledge of this kind, in the pursuit of which they were in no danger. Quiet heart-action can be better maintained if the patient's attention can be directed to something else, and we think it a very serious mistake to be too frank in our diagnosis. The form of heart disease which most frequently ends in sudden death is the most difficult of diagnosis—fatty degeneration. When diagnosed it seems less amenable to treatment than other forms, and digitalis, our sheet anchor in most other cardiac diseases, is here not only of doubtful utility but oftentimes extremely dangerous. The most essential factor in the treatment of this affection is a good nu-

trition, and a mind continually worried by fear of sudden death would certainly be little encouragement to this end.

We would say, then, unless compelled to make known the result of an examination, reserve the knowledge you may have gained thereby for your own guidance in the management of the case, and in every way possible allay the anxiety that may have been occasioned by your examination.

Illinois University.

The College of Physicians and Surgeons of Chicago is the heir apparent to the \$200,000 appropriation which it is hoped the Illinois Legislature will make for a medical department of their State University. There is one advantage in selecting the College of Physicians and Surgeons for the purpose, and that is that it will prevent the organization of a new college for the university.

REMEMBER that we will furnish you the JOURNAL for one year and Helbing's Modern Materia Medica for \$2.50.

A Western Author.

Dr. S. G. Gant, of Kansas City, is just putting the finishing touches on an exhaustive work on "Diseases of the Rectum," which he has had in preparation for the past three years. The book will be finely illustrated and the illustrations are all original, a great many of them being extremely fine. Dr. Gant has been and is a systematic and persistent investigator along the line of rectal diseases, and we may confidently expect something creditable to the author and the West.

REMEMBER that we will furnish you the JOURNAL for one year and Helbing's Modern Materia Medica for \$2.50.

Topeka Academy of Medicine and Surgery.

The Topeka Academy of Medicine and Surgery met in regular session at A. O. U. W. hall Monday, February 11, at 8:15 P.M.

Present: Drs. Magee, Mitchell, W. E. McVey, Lewis, McCrear, Barnes, J. C. McClintock, Wallace, Stewart, R. E. McVey, Powell, Sheldon, Munn, Minney, Buckmaster, Lindsay, Adams; visitors, Dr. S. Kirby and Dr. Uhls. Dr. Magee presided.

The first paper of the evening was presented by Dr. M. R. Mitchell; subject, "Empyema. Dr. Mitchell produced a scholarly paper and handled his subject in a scientific manner, defining his subject, and going over the usual method of elaborating his topic. He illustrated his paper by exhibiting a case upon which he had twice operated. In 1888, the boy of 7 years had double pneumonia, from which he made incomplete recovery. Symptoms of empyema afterward developed on left side, and the doctor made an incision with a bistoury at seventh intercostal space in axillary line and removed about one gallon of pus. The cavity was occasionally irrigated with a 2 per cent. carbolic acid solution for from two to four weeks, after which the boy recovered and remained apparently well for four years. Then "malarial" symptoms developed and the boy was put on the ordinary treatment for remittent malarial fever. Improvement was first noted, but finally a rapidly developing empyema was detected in the same locality as before. A similar operation was performed, and this time about one-half gallon of very putrid fluid with fetid odor was removed. The boy, however, made a good recovery and still remains apparently well. Notwithstanding the repeated accumulations and consequent pressure upon the thoracic viscera, the apex of the heart remains in its normal situation. The doctor reported slight dullness at present over the seat of the operation, probably due to some adhesions at this point. There is also a slight lateral curvature of the spine in dor-

sal region corresponding to the position of the greatest distention and consequent contraction.

Dr. Mitchell further illustrated his paper by two pen drawings, representing cross sections of the thorax, and showing very nicely the compression of the lung resulting from the pleural abscess.

The paper and report were received by motion.

Discussion.—Dr. Lewis: "The cause of pleuritic empyema, as generally recognized, may be the pneumo-coccus or the streptococcus pyogenes aureus, or the white pus cell or the tubercle bacillus, or even traumatism. The final result depends much upon the cause. If the tubercle bacillus, little may be hoped for. If pneumo-coccus, the outlook is more flattering." Dr. McClintock interrupted by asking whether the tubercle bacillus could cause empyema, to which Dr. Lewis replied in the affirmative and referred to Dr. Senn as his authority. Dr. McClintock repeated his question with more emphasis, as if not satisfied with the reply.

Dr. Lewis referred to six cases in his own practice, which he had treated recently by doing the radical operation. Three were children and all made good recoveries. Two adults died. The sixth was a simple case of hydro-thorax, which was cured by aspiration.

The exploring needle is not always a safe guide as to the location of the abscess. In one case pus was thus discovered, and at the operation the pleural cavity was found empty, but on puncturing the pulmonary plura the abscess cavity was discovered and evacuated. In this case empyema was superinduced by the operation, and although drainage tubes were introduced and the cavity cleansed, the patient died in three weeks. Dr. Senn does not speak of excision of the ribs as a radical operation."

Dr. Munn: "An every-day occurrence like this should not pass without discussion. In Dr. Lewis' case in which the exploring needle was used he probably had a circumscribed abscess, isolated by pleuritic adhesions, and the seat of operation was probably over the portion not containing pus]

I have seen eight cases in fifteen years' practice, but have never done excision of the ribs, for two reasons: first, I was afraid of the intercostal artery, and second, the other operation was easier. I did not wash out the pleural cavity at all in two cases, and in these I secured the best results, although it is the surgical procedure to wash out the cavity."

Dr. McClintock: "In the after treatment in excision of the ribs, trouble is often due to the periosteum which is left. The rib should not be cut with pliers, but with a bone saw; the periosteum should also be removed. In children simple tapping is usually sufficient. In adults recurrence is the rule, hence we must apply the surgical procedure by excision. Incise the periosteum, turn it back, cut the ribs with the bone saw, remove the periosteum, also the lining pleura. The artery never gives any trouble. I have never tied it nor even applied the forceps. Drainage is all that is necessary; washing is unnecessary. Too many deaths follow this procedure. In some cases which linger for months, excision of several ribs is called for. The surgical rule is to remove the entire bony wall overlying the abscess cavity. In our cases of pneumonia we do not get results as favorable to-day as we did fifty years ago. This is due to the promiscuous use of antipyretics. The old treatment of purges, blisters and bleeding gave better results."

Dr. Minney began an excellent discussion on this subject, but at the critical moment when he was about to clinch his argument, the stovepipe broke loose from its anchorage and barely missed the doctor's head. Even this did not deter the speaker nor the spellbound audience, but the accumulation of smoke in the room called for quick action in replacing the pipe, and the secretary regrets exceedingly his inability to reproduce the valuable remarks of Dr. Minney.

Dr. Mitchell: "I do not regard the diagnosis of this condition as an obscure thing. Upon general principles irrigation is advisable in extreme cases of pyæmic conditions due to empyemia. Care in irrigation with

reference to force, amount of water used and temperature of the water may ward off the depression which so often follows this procedure."

The second paper of the evening was read by Dr. R. E. McVey; subject, "The Little Red Spot in Its Final Analysis."

The doctor gave one of his most interesting and instructive papers upon endocarditis. He dwelt at length upon the mythology, etc., of the heart; but his paper will be published in full in the JOURNAL, so that the discussion only will be summarized in these minutes. The paper was received by motion.

Dr. Munn: "These cases cause the greatest anxiety. Digitalis should be handled carefully. It often hastens the patient to the grave. Strychnine, caffeine, strophanthus and other remedies should be given in preference for continuous use."

Dr. Lindsay: "In rheumatic endocarditis salicylates should be given and digitalis reserved only for temporary relief."

Dr. Minney: "The tincture of digitalis is not as reliable as the alkaloids and the fluid extracts. I would like to ask the question whether the influenza has any secondary effects of this nature."

Dr. W. E. McVey: "Digitalis both increases the force of the heart and contracts the arterioles and should not be used in dilatation of the heart, as it increases the dilatation. Digitalis is our sheet anchor and often too small doses are used, especially in chronic cases."

Dr. R. E. McVey: "The cause of failing compensation is dilatation, and as digitalis is given for this, we can scarcely dispense with its use in dilatation. My observation has been that the lesions of syphilis were found in the left auricle, those of rheumatism in the mitral valve, and those of alcohol in the aortic valves."

The name of Dr. S. Kirby was presented for membership by Dr. Wallace, to be voted upon at the next meeting.

On motion the meeting adjourned.

L. M. POWELL, *Secretary*.

Cycling and Heart Disease.

Medical Record.

Sir Benjamin Ward Richardson, in an address on this subject before the Medical Society of London, drew these nine conclusions: "First, cycling, when carried on with moderation, in so far as the healthy heart is concerned, may be permitted or even recommended by practitioners of the healing art. Secondly, in all cases of heart disease it is not necessary to exclude cycling. It may even be useful in certain instances where the action of the heart is feeble, and where signs of fatty degeneration are found, since increased muscular exercise often improves the condition of muscle, and of no muscle more than the heart itself. Thirdly, as the action of cycling tells directly upon the motion of the heart, the effect it produces on that organ is phenomenally and unexpectedly great in regard to the work it gets out of it. Fourthly, the ultimate action of severe cycling is to increase the size of the heart, to render it irritable and hypersensitive to motion, the cycling acting upon it like a stimulant. Fifthly, the over-development of the heart under the continued and extreme over-action affects in turn the arterial resilience, modifies the natural blood-pressure, and favors degenerative structural change in the organs of the body generally. Sixthly, a fact that has only been incidentally noticed in this paper is worthy of notice—namely, that in persons of timid and nervous natures (neurotics) the fear incidental to cycling, especially in crowded thoroughfares, is often creative of disturbance and palpitation of the heart, and ought to be taken account of as a piece of preventive advice. Seventhly, in advising patients on the subject of cycling it is often more important to consider the peripheral condition of the circulation than the central. Enfeebled or worn-out arteries may be more dangerous than the feeble heart, and, when connected with a heart that is over active are seats of danger. This same remark would, of course, apply to cases where there is local arterial

injury, as in aneurism. Eighthly, venous enlargement seems rather to be benefited than injured by cycling, and conditions marked by sluggish circulation through veins are often greatly relieved by the exercise. Ninthly, there are three things which are most injurious in cycling—(a) straining to climb hills and to meet head-winds; (b) excessive fatigue; and (c) the process of exciting the heart and wearing it out sooner by alcoholic stimulants, and the omission of light, frequently repeated, and judiciously selected foods. Lastly, the time has arrived when practitioners of medicine everywhere should make observations for themselves that confirm or confute these observations, and add to them so much more that I of necessity have omitted."

Dr. Ernest Sansom, in commenting on the above, referred to his oration on rapid heart, delivered before the society, and said that he could only recall one instance in a cyclist, and he had met with no instance of irregular heart among riders. He thought the worst form of exertion was the running to catch a train, which produced both irregularity and rapidity of heart-beat. The influence of cycling was decidedly more in the direction of good than in that of evil. As a therapeutic agent in the treatment of actually existing heart disease it was quite in accord with the recommendations of Prof. Hirtl, of Munich, who prescribed physical exercise; but he thought cycling had many advantages over climbing, which Prof. Hirtl extolled. He looked upon the cycle as an important hygienic and therapeutic agent, and thought it was responsible indirectly for the immense moral improvement noticeable in the track and the area of the cycle.

DR. W. A. McCULLY, of Independence, Kas., one of the old time residents of the West, died January 22.

REMEMBER that we will furnish you the JOURNAL for one year and Helbing's Modern Materia Medica for \$2.50.

The Phenomena of Abdominal Dropsy.

James Oliver (The Lancet, 1894; III., 12,10.)

An explanation must be looked for in the capillary system. The exact relation of the lymphatics to the vascular system is still in doubt. The fluid which lubricates the serous surfaces comes from the blood vessels by a process of filtration. This fluid differs from that of abdominal dropsy in that it coagulates spontaneously, but the pathological fluid probably contains a larger proportion of water. The normal filtration from blood vessels is greatest after a meal and least during starvation. It does not accumulate, because the absorption keeps pace with exudation. In considering abdominal dropsy the following conditions must be considered: (1) the nature of the blood; (2) the physico-chemical state of the membrane or membranes participating in the process of osmosis; and (3) the motion of the blood.

1. The blood is an aqueous solution of organic and saline matters. The amount of water varies to a great extent without disturbing physiological phenomena. The least supported tissues are infiltrated by dilute liquor sanguinis when water is injected into the aorta. This is not so markedly produced by injecting water into a vein. In the latter case the diluted blood undergoes a change before reaching the systemic capillaries. Dropsy may occur in wasting diseases with a watery condition of the blood, but the body nutrition is generally disturbed and hydræmia cannot be the sole cause. The efficiency of the circulation is maintained by the albumin and fibrin. The albumin prevents the water from filtering through the vessels and the fibrin suspends the corpuscles. In Bright's disease the altered physical state of the blood and the loss of the albumin greatly facilitate the transudation from the vessels.

2. An excessive transudation may occur even though the conditions of the blood be normal, due to the altered state of the organic filter.

If the principal vein of a limb be liga-

tured, oedema does not necessarily follow. But if the vaso motor nerves are cut, more or less serous exudation occurs. The vessels lose their tone, and are more permeable to the outflow, but less so to the inflow. It is now generally believed that the blood vessels are directly concerned, as well as the lymphatics, in the process of absorption. To facilitate absorption the fluid should be placed in contact with the vessels as soon as possible. Sometimes the peritoneum becomes thickened, and consequently the process of absorption is hindered. If the peritoneum is greatly thickened the lymphatic openings are constricted or occluded, thus more or less hindering absorption.

4. Absorption is favored and transudation hindered by perpetual motion of the blood. Transudation is rendered easy by the structure of the vessels. Whatever accelerates the circulation through the nervous system increases the rate of absorption. If arterial pressure is increased the circulation is accelerated and transudation reduced. If there is venous stasis there is defective absorption and increased exudation.

Papain in Eczema.

Notes on New Remedies.

In the *British Journal of Dermatology* the following application is recommended in ichthyosis and chronic eczema;

R Papain 3 ii
Acid salicylici 3 i
Glycerini, Ol. ricini, of each ... 3 iv M

Sig.—Apply, with friction, to the surface of the body.

Papain was introduced in this country about twelve years ago, and has steadily increased in favor with the medical profession; Papain (L. & F.) is now in very considerable demand, and the large amount used is one of the surest indorsements of its value as a remedial agent.

THE cat's stomach has been removed, and the cat not only lived, but its nutrition was normal.

Salicylate of Sodium in Headache.

Northwestern Lancet.

In the February number of the *Practitioner*, Lauder Brunton writes an interesting article on headaches, in the course of which he points out that the one very common form of headache commences in this way: The patient sometimes feels a little unwonted irritability at night, but this irritability is not always present. It is very often the precursor of a headache. He wakes in the morning about 4, 5 or 6 with a feeling of weight in the head, but not a headache. He is very drowsy, disinclined to rise, and is apt to turn over and go to sleep again at once. If he does this he awakes again about 7 or 8 with a distinct, but not a severe headache, usually frontal or temporal. As the day goes on the headache becomes worse and worse, until in the afternoon or evening it becomes almost unbearable. It then finishes up with sickness, after which the patient becomes easier, but feels much exhausted. A headache of this sort may frequently be prevented by the patient taking a mixture of bromide of potassium and salicylate of sodium over night, or by getting up and taking it when he awakes with a heaviness in the early morning, instead of turning over and going to sleep again.

Death Is Painless.

The St. Louis Clinique.

Dr. Cyrus Edson, in *North American Review*, says: "Nothing is more common than to hear from the pulpit pictures in words of excitement, of alarm, of terror, of the deathbeds of those who have not lived religious lives; yet, as a rule, if these pictures are supposed to be those of the unfortunates at the moments of death, they are utterly false. In point of fact, ninety-nine of every hundred human beings are unconscious for several hours before death comes to them. All the majesty of intellect, the tender beauty of thought, or sympathy, or charity, the

very love of those for whom love has filled all waking thoughts, disappear. As a little baby just born into the world is but a little animal, so the sage, the philosopher, the hero, the statesman, he whose thoughts or deeds have written themselves large in the history of the world, becomes but a dying animal at the last. A merciful unconsciousness sets in, as the mysterious force we call life slowly takes leave of its last citadel, the heart, and what is has become what was. This is death."

The Dangers of Thyroid Extract.

N. Y. Medical Times

Dr. W. D. James reports in the *British Journal of Dermatology*, a case of glycosuria caused by thyroid extract given for the relief of psoriasis. The patient was a physician, had taken the extract in small doses for some time without effect upon the disease, and then increased the dose quite suddenly. At the end of a week he began to suffer quite severely from depression, with frequent flushings and palpitations. The nervous symptoms increased, and the patient felt and looked like a very old man. Before another week elapsed his thirst became unquenchable; the quantity of urine greatly increased, the breathing became embarrassed, the pulse rose to 132 per minute, and the smell of acetone was detected in the breath. The urine had a specific gravity of 1.032, and sugar was freely found by all tests. The thyroid treatment was at once stopped, and anti-diabetic diet adopted, with the result that the quantity of sugar decreased daily and disappeared entirely in a few days. No improvement was noted in the psoriasis.

In gonorrhœa irrigation with warm water slightly alkaline is safe and good treatment. About one quart of water should be used once a day from a fountain syringe three or four feet above the patient's head, the patient standing.

Syphilis of the Heart.

Prof. K. Dehio (St. Petersburg Med. Wochenschrift; 1894; No. 46; 407).

Syphilis of the heart is a comparatively rare affection, the anatomical changes of which usually commence in the myocardium and from there extend to the endocardium and pericardium. They consist in the formation of the specific infectious granulation tissue in the form of a reddish gray infiltration. This infiltration develops principally around the smaller vessels, from where it proliferates into the connective tissue interstices between the muscle bundles and muscle fibers. The granulation tissue may grow and form compact circumscribed masses, which after a while change to typical gummata, and may obtain the size of a hazel, or even a walnut. In other cases the connective tissue formation will be more abundant, and an interstitial gummatous myocarditis will form. In still other cases cardio-sclerosis may result, or finally, an endocarditis syphilitica. Gummatous pericarditis and endocarditis are not infrequently present after the disease has lasted for some time.

The clinical symptoms of heart syphilis are not pronounced, and the affection is mostly found in the tertiary stage, especially at the time of the appearance of the first general symptoms, the heart may become affected. Severe disturbances in the heart's action, however, rarely occur before the fourth year after infection, and are by no means characteristic. The pulse is irregular or rhythmic, or there may be intermissions; the patient suffers from palpitation, shortness of breath and an oppressive feeling, or may apparently be entirely well when suddenly a severe attack of heart failure may set in, which may result in death. In other cases death results after symptoms of a chronic insufficiency of the heart. Sometimes all symptoms may disappear completely and the patient be apparently cured. The diagnosis is not easy, and in making it the history of a syphilis at any time of the patient's life must always be taken into consideration. An early diagnosis is of the

greatest importance, since it gives us the only indication for a successful treatment with specifics.

New Discoveries in Brain Physiology

Medical Record.

The London lay press has been heralding what is regarded as a new and remarkable discovery in brain physiology. Strictly speaking, the discovery is anatomical rather than physiological. The discovery now on the *tapis*, says the *Medical Press*, is that of Professor Flechsig, Rector of the University of Leipzig. According to a Berlin correspondent it amounts to this, that within the cortex of the cerebrum four connected plexuses are definable, closely resembling one another, but essentially differing from the other parts of the cerebrum in anatomical structure. These four centres lie in the forepart of the "frontal cerebrum," in the temporal lobe, in the hinder lobe, and in the parietal lobule. They clearly differentiate the human brain from that of the lower animals, and they do not exist in newborn children. Flechsig calls them "intellectual centres, or "centres of association," because they concentrate the activities of the organs of sense into higher units. They are connected by numerous systems of fibres. Flechsig draws a contrast between them and the "centres of sense," the centres of sight, hearing, smell, touch, etc., which produce lower units. He holds that it is only in the centres of association with which these centres of sense are connected by innumerable nerve-fibres that their contents are converted into thoughts. In assuming so much—for we have yet to learn that it is more than an assumption—Flechsig is not content. He goes further, and says that these centres of association elaborate the impressions of the senses, their activity being directly wholly inwards, "they are the bearers of all that we call experience, knowledge, cognizance, principles and higher feelings, and also of language." The new "discovery" is evidently only an elaboration and practical application to psychology of old and well-known facts.

THE Trustees wish to announce that Dr. Emory Lanphear is no longer connected with the College of Physicians and Surgeons. Hereafter the *Clinique* will be edited by a committee of three members of the faculty, with Dr. Jas. A. Close, the dean, as chairman. The Chair of Principles and Practice of Surgery will be filled by Professor Funkhouser for the remainder of the term. Dr. Frank Ring has been appointed Registrar.—*St. Louis Clinique*.

Succus Alterans in England.

Medical Reprints, London.

Dr. William Richard Goodfellow, M.R.C.S., Roche, Cornwall, England, L.S.A. (London Hospital, surgeon Roche and St. Anstell United Mines), says: "I have used in practice the preparation known as Succus Alterans, and have much pleasure in bearing testimony to its great value. For diseases having their origin in a syphilitic source, I believe Succus Alterans to be the one reliable specific, for I may add that invariable success has been met with by me when prescribing the remedy in question, even after the failure of other alteratives. I shall continue to rely on the Succus Alterans in all cases I have indicated herein."

Michigan University Favored.

Detroit Free Press.

ANN ARBOR, MICH., February 16.—It was at the meeting of the American Pharmaceutical Association, held at Asheville, N. C., last September, that a fellowship to be known as the "Stearns' Fellowship of Pharmaceutical Chemistry and Pharmacology," was conceived. Prof. J. O. Schotterbeck, of the university, and Dr. F. E. Stewart, director of the scientific department of Frederick Stearns & Co., at once formally presented the matter to the president, Mr. F. K. Stearns. It was then favorably received and reported, though the details of the arrangements were not completed until some

time later. The fellowship offers excellent opportunity to graduates of the school of pharmacy for original work as the facilities are generally admitted to be the best in the country. During the coming year the work of the fortunate candidate will be under the immediate supervision of the dean of the department, Dr. A. B. Prescott.

Only a short time since the Stearns art collection, comprising hundreds of beautiful water-color reproductions of Japanese fishes, executed at great expense by a famous Japanese artist, has been given to the university to be placed in the general museum. Let others follow the example thus so generously set by those true friends of the university.

Pasteurine in the Treatment and Prevention of Diphtheria, Etc.

Pacific Record of Medicine and Surgery, January, 1895.

Basing their conclusions on the well known antiseptic, deoderant and disinfecting properties of citric acid, oil of cinnamon and oil of eucalyptus, many Western physicians prescribe pasteurine as a gargle, mouth wash and general mouth disinfectant during the treatment and for the prevention of diphtheria, tuberculosis and various forms of infectious throat affections. The facts developed long ago that citric acid and the above-named oils are strong antiseptics in a general sense, have led several authorities to experiment with them separately and collectively, and it was found that the diphtheria germ is particularly susceptible to the germicidal effects of citric acid. Now comes an eminent scientist, M. Girard, chief of the Paris municipal laboratory, who experimented with this acid on the germs of typhoid fever and cholera, and who states positively that citric acid is the strongest of all acids in destroying these germs. It does so in very diluted solutions. As this acid is harmless to the teeth and may be swallowed with impunity when properly prepared, and when we consider that the essential oils mentioned above when properly combined with it increase the scope of the germicide properties of the solution, we can readily realize the great value of pasteurine as an antiseptic and deoderant. No other non-poisonous combination on the market is so simple, so safe and so effective. It is not strange therefore that it pleases the profession so much. Its palatability, comprehensiveness and effectiveness render it the most reliable and useful of all antiseptics in general and special practice.